

(12) **UK Patent Application** (19) **GB** (11) **2 214 100** (13) **A**
 (43) Date of A publication 31.08.1989

(21) Application No 8827870.0

(22) Date of filing 29.11.1988

(30) Priority data
 (31) 8730006 (32) 23.12.1987 (33) GB

(71) Applicant
Paul Anthony Sanders
 127 Tinsmill Road, Leeds 16, United Kingdom

(72) Inventor
Paul Anthony Sanders

(74) Agent and/or Address for Service
Mewburn Ellis
 2 Cursitor Street, London, EC4A 1BQ, United Kingdom

(51) INT CL⁴
 B28C 5/20, B01F 9/02

(52) UK CL (Edition J)
 B1C CAPD C101 C611
 U1S S1382

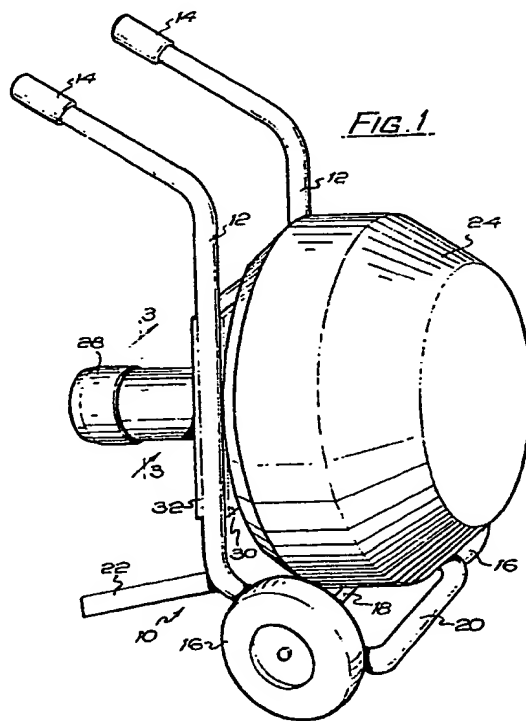
(56) Documents cited
 GB 2187395 A GB 2040716 A GB 0775904 A
 US 4294548 A US 4223997 A US 3879020 A

(58) Field of search
 UK CL (Edition J) B1C CADA CAEA CAKA CAM
 CANB CAPA CAPB CAPC CAPD CAT
 INT CL⁴ B01F, B28C

(54) **Cement mixer**

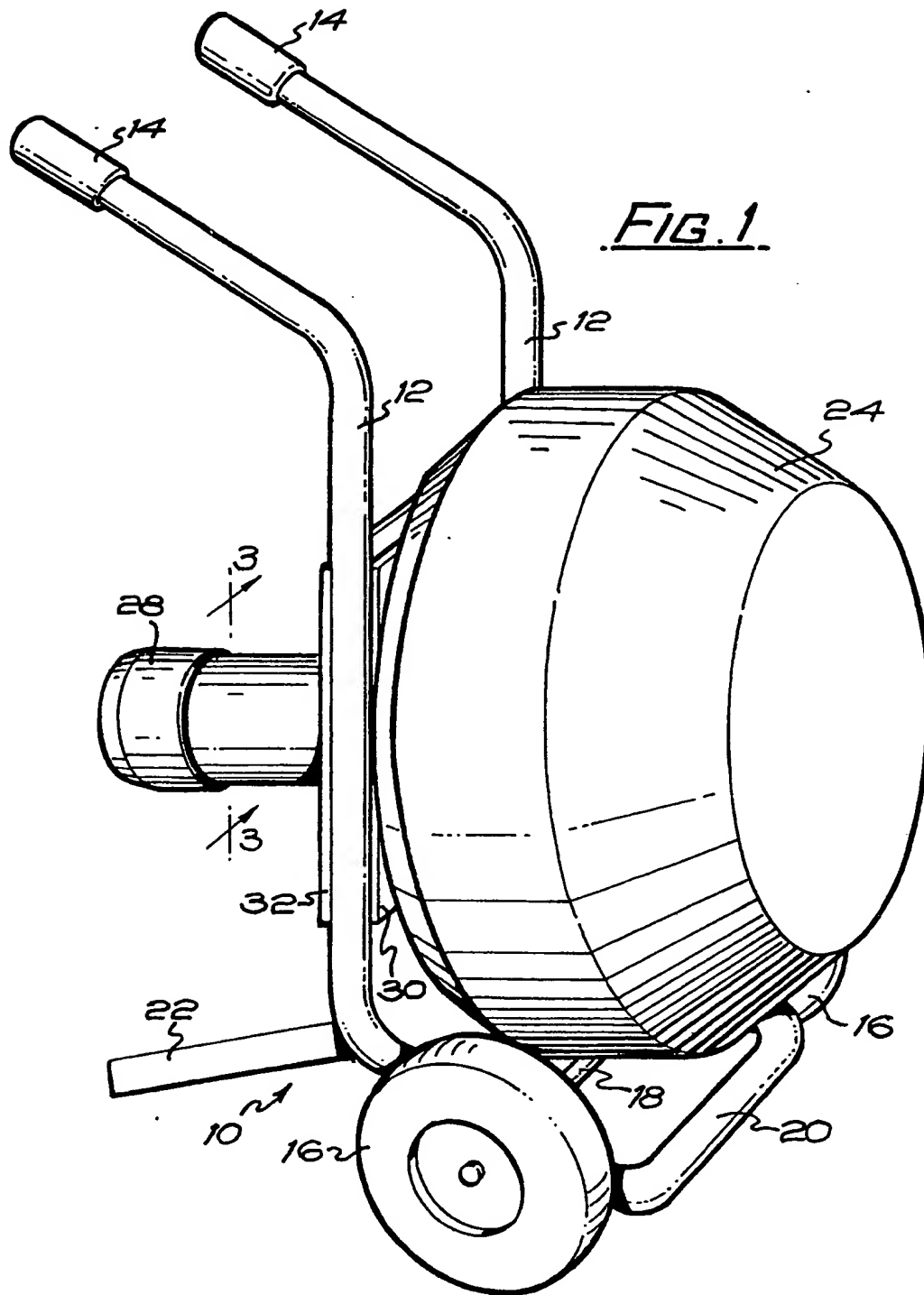
(57) A cement mixer has an upstanding wheeled frame (10), a mixing vessel (24) projecting forwardly of the frame, and an electric motor (28) drivably connected to the mixing vessel by way of reduction gearing.

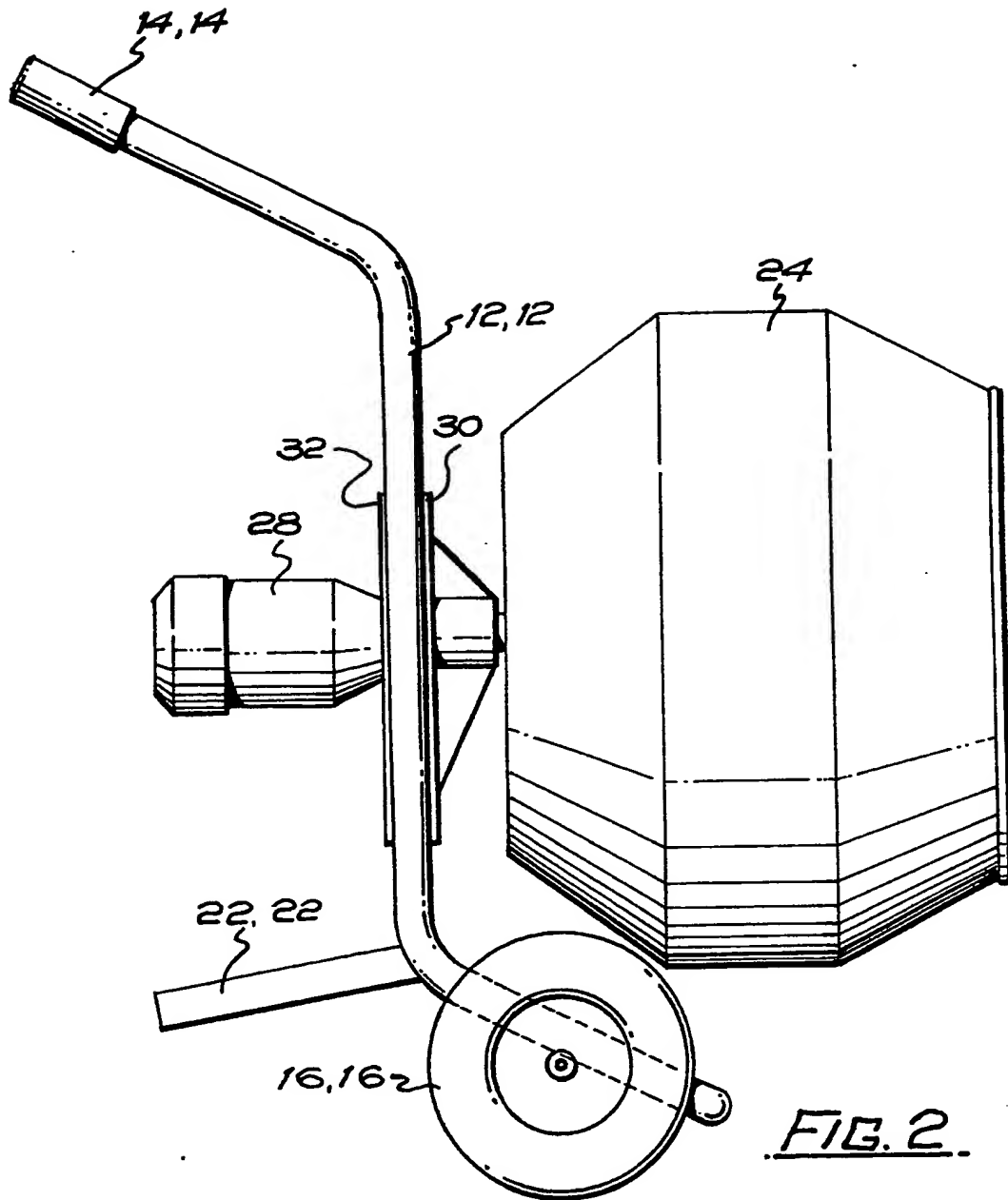
So that the mixer can be produced at an economical cost, the reduction gearing is located within a space formed between respective front and back plates (30 and 32) bolted to the tubular side frame members (12).



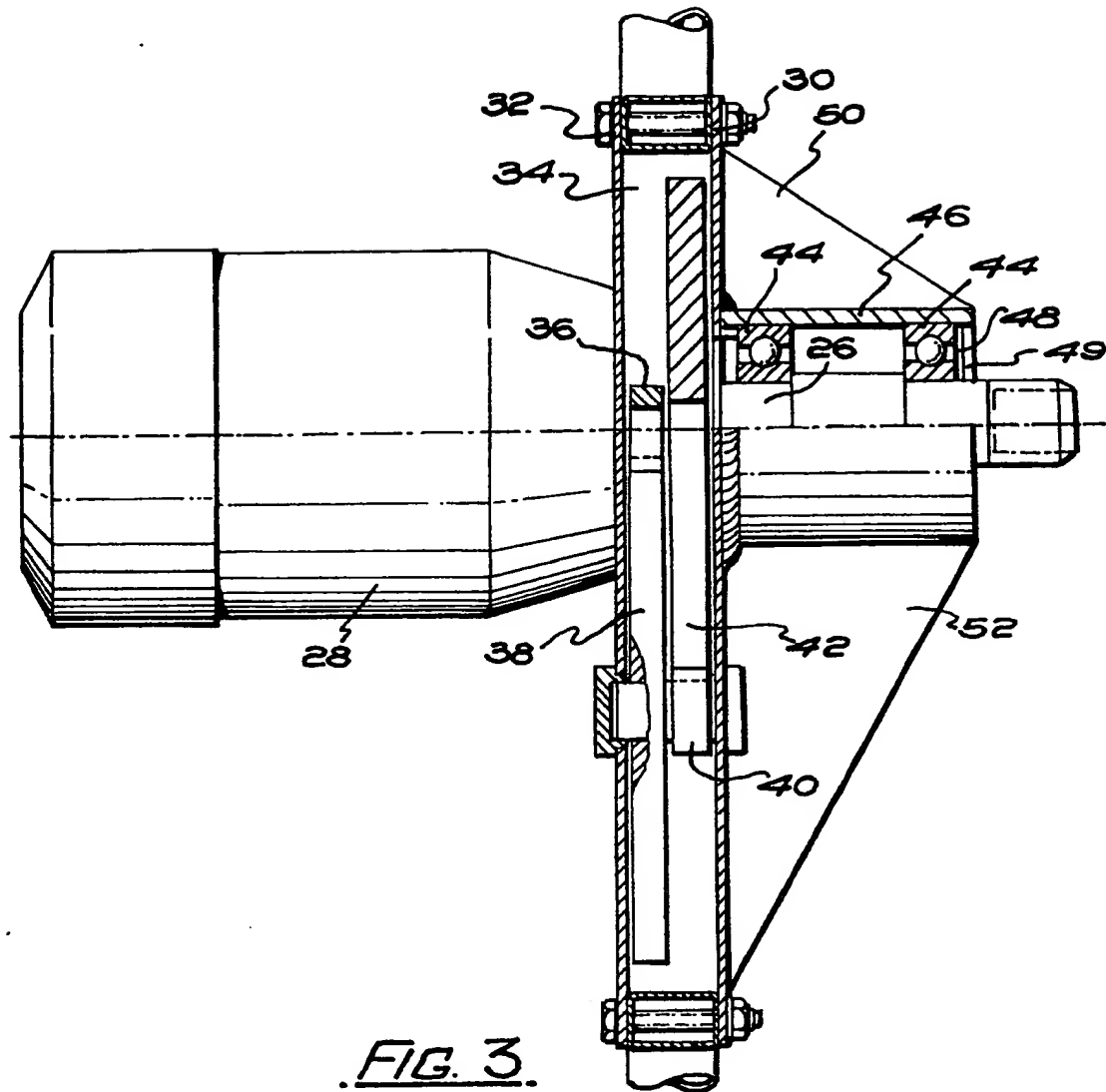
2214100

1-3





3-3

FIG. 3.

Cement mixer.

The invention relates to a cement mixer.

Cement mixers of relatively small size and intended mainly for the use of householders for example are already known and generally include a
5 wheeled frame, with handles by means of which it can be trundled around in the manner of a wheelbarrow, the frame carrying a rotatable mixing vessel and an electric motor for rotating the
10 mixing vessel by way of a reduction gearbox. Such cement mixers work quite well but are somewhat expensive. The object of the invention is to provide a cement mixer of the same general kind but of a construction such that it can be produced at a
15 lesser cost.

According to the invention, there is provided a cement mixer having an upstanding wheeled frame including upstanding tubular side frame members terminating in handles by means of which it can be
20 trundled around, a mixing vessel projecting forwardly of the frame and rotatable about the axis of a forwardly extending mounting shaft rotatably mounted in said frame, and an electric motor extending rearwardly from the frame and drivably
25 connected by way of reduction gearing to the mixing

vessel mounting shaft, the reduction gearing being located within the thickness of the tubular frame. The reduction gearing will preferably be located within a space formed between respective front and back plates bolted to the frame.

In order that the invention may be fully understood and readily carried into effect, the same will now be described, by way of example only, with reference to the accompanying drawings, of which:-

Figure 1 is a perspective view of a cement mixer embodying the invention,

Figure 2 is a side view, and

Figure 3 is a sectional view on the line 3-3 in Figure 1.

Referring now to the drawings, the cement mixer there illustrated has an upstanding wheeled frame generally indicated 10, the frame including upstanding tubular side frame members 12,12 which are angled at their upper ends, as shown, to terminate in handles 14,14 by means of which the mixer can be trundled around. As best seen in Figure 1, the upstanding side frame members have been formed from one continuous length of steel tube which has been formed in a U-shape before the upper ends of the side frame members have been

angled in on direction and a lower part of th
frame has been angled in the opposite direction.
The wheels, 16,16 of the frame are mounted on the
opposite ends of an axle 18 which has been welded
5 across the underside of the frame, a short distance
back from the length of tube which forms the cross
piece 20 of the U-shape of the frame. A pair of
legs 22 are welded to the lower ends of the side
frame members, as shown, to extend rearwardly and
10 downwardly. They are intended to prevent the mixer
from falling over rearwardly.

A mixing vessel 24 projects forwardly of the
frame and is rotatable about the axis of a
forwardly extending mounting shaft 26 on which it
15 is fixed. The shaft 26 is rotatably mounted in the
frame as will presently be described. An electric
motor 28 extends rearwardly from the frame and is
drivably connected by way of reduction gearing to
the mixing vessel mounting shaft.

20 Referring now in particular to Figure 3, this
illustrates the way in which the shaft 26 and the
reduction gearing referred to is rotatably mounted
in the frame. As shown, respective front and back
plates 30 and 32 have been bolted to the frame to
25 form a space 34 equal in width to the outside
diameter of the steel tube from which the frame has

been formed. The reduction gearing referred to is contained within the space 34 and comprises a pinion 36 which is fixed on the motor drive shaft, an idler gear 38 fixed to an idler pinion 40, both of which are mounted for free rotation about a common axis, and a drive gear 42 which meshes with the idler pinion and which is fixed on the inner end of shaft 26.

The shaft 26 is mounted in ball bearings 44, 44 spaced apart within a cylindrical housing 46 which has been welded to the front plate 30, the bearings being retained in the housing and the shaft 26 being axially located by the fitment of a circlip 48. A seal 49 excludes the entry of dirt and grit into the bearing arrangement. Great strength has been built into the mounting by the welding of an arrangement of webs 50 and 52 around the housing 46.

Thus there is provided a cement mixer of relatively small size intended mainly for the use of householders, for example, when performing DIY jobs, the mixer being of such a simple construction that it can be produced at a very modest cost. The fact that the reduction gearing is mounted as described instead of being a separate unit bolted onto the frame contributes to the reduction in cost

and results in a construction of n at and simple appearance.

CLAIMS:

1. A cement mixer having an upstanding wheeled frame including upstanding tubular side frame members terminating in handles by means of which it
5 can be trundled around, a mixing vessel projecting forwardly of the frame and rotatable about the axis of a forwardly extending mounting shaft rotatably mounted in said frame, and an electric motor extending rearwardly from the frame and drivably
10 connected by way of reduction gearing to the mixing vessel mounting shaft, the reduction gearing being located within the thickness of the tubular frame.
2. A cement mixer according to claim 1, in which the reduction gearing is located within a
15 space formed between respective front and back plates bolted to the frame.
3. A cement mixer constructed, arranged and adapted to operate substantially as hereinbefore described with reference to and as illustrated by
20 the accompanying drawings.